



Test Report : SMU02M-12

2W DC-DC Unregulated Single Output Converter

■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

■ SAFETY TEST

Safety Test

■ RELIABILITY TEST

Environment Test

Other

DESIGN VERIFY TEST
OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	VOLTAGE ACCURACY	-2 % ~ +2 % (Max)	I/P:12VDC O/P:FULL LOAD Ta:25°C	-0.08 %	P
2	RIPPLE & NOISE	60 mVp-p (Max)	I/P:12VDC O/P:FULL LOAD Ta:25°C	30 mV	P
3	LINE REGULATION	-12 % ~ +12 % (Max)	I/P:10.8VDC~13.2VDC O/P:FULL LOAD Ta:25°C	-10.81 % ~ +10.43 %	P
4	LOAD REGULATION	-8 % ~ +8 % (Max)	I/P:12VDC O/P:MIN-FULL LOAD Ta:25°C	-1.80 % ~ +1.78 %	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	EFFICIENCY	85 % (Typ)	I/P:12VDC O/P:FULL LOAD Ta:25°C	86.83 %	P
2	DC CURRENT	210 mA / FULL LOAD (Max) 25 mA / NO LOAD (Max)	I/P:12VDC O/P:NO / FULL LOAD Ta:25°C	193.2 mA / FULL LOAD 18.7 mA / NO LOAD	F

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	Momentary	I/P:12VDC O/P:TESTING Ta:25°C	BROKEN	P
2	SHORT PROTECTION	Momentary	I/P:13.2VDC O/P:FULL LOAD Ta:25°C	BROKEN	P

SAFETY TEST
SAFETY TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P:1500 VDC/min	I/P-O/P:1500 VDC/min Ta:25°C	I/P-O/P: 0.02mA NO DAMAGE	P
2	ISOLATION RESISTANCE	I/P-O/P:500VDC>100MΩ	I/P-O/P:500 VDC Ta:25°C	I/P-O/P>100MΩ NO DAMAGE	P

RELIABILITY TEST
ENVIRONMENT TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT								
1	TEMPERATURE RISE TEST	1. ROOM AMBIENT BURN-IN : 13HRS I/P:12VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 8HRS I/P:12VDC O/P:FULL LOAD Ta=70°C			P								
		<table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>1</th> <th>2</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CASE</td> <td>49.7°C</td> <td>95.0°C</td> </tr> </tbody> </table>		NO	Position	1	2	1	CASE	49.7°C	95.0°C		
NO	Position	1	2										
1	CASE	49.7°C	95.0°C										
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 13 HOURS	I/P:12VDC O/P: FULL LOAD Ta= -40°C	TEST : OK	P								

OTHER

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	MTBF	MIL-KDBK-217F NOTICES 2 PARTS COUNT TOTAL FAILURE RATE : 0.87666 M.T.B.F : 1140694 HRS			P

TEST RESULT	TESTER	APPROVAL
PASS	PETER CHENG	VINCENT TSENG